

LEVEL 2

GAMES IN THE CLASSROOM

Learning through play is not a new concept. It is the fundamental way young mammals acquire knowledge of the world around them. In both the fields of education and psychology, much research has shown that human children are no different. Their sense of the world comes into focus during early play. They develop the skills necessary to survive physically, mentally, and emotionally. And because failure in play is rarely catastrophic, they acquire the confidence necessary to try new approaches to the world around them.

Children experiment from the very first moment their senses are switched on. They smell, taste, and touch. A child will be drawn to the heat of a fire, but once burned will learn to keep her distance. The mistake has taught her more about fire than any lecturer can.

So why then once children reach a certain age do we interrupt their play? Learning becomes serious. Play is considered frivolous, at best a way to blow off a little steam. We know what happens when steam is allowed to build up without release, don't we?

Yet, we not only decide that it is time to get serious about learning, but we regiment it. Lectures become rote. Tests are standardized. Measurements become more important than knowledge. Failure is penalized with a big "F." But what are we measuring exactly? A child's ability to learn? Our ability to educate? They were doing just fine before we decided to turn them into miniature adults like those disturbing children in seventeenth and eighteenth century portraits, as

shown in Figure 2.1. I realize I'm only using an analogy here, but that analogy creeps me out more than any standardized zombie invasion.



Figure 2.1

Portrait of a Child with a Coral (1636).

Who decided when to pull the switch? "Okay, enough of this learning about the world naturally. I want you to sit there, unmoving, and listen while I do your thinking for you. Memorize what I'm saying so you can take a standardized test so you can be compared to lots of other standardized children, and our school will get paid better for educating you better."

Happily, educators for years have devised their own ways of retaining a sense of play in the classroom. Even in the face of multiple choice exams, so that computers can grade for us and then compile all sorts of data full of rich mining opportunities, games sneak into the classrooms. So it shouldn't be any surprise that when video games came along, they were smuggled in as well.

EDUCATIONAL SOFTWARE

Educational software has been around a lot longer than you might think. Flight simulators date back to the 1940s. The original PLATO (Programmed Logic for Automated Teaching Operations) system was developed in 1960 at the

University of Illinois, and the last PLATO terminal was still in operation until 2006. The PLATO IV system boasted a number of features that would become common on home computers just a few years later. These included rudimentary graphics, sound, and even touchscreens.

Up until 1975, educational software systems ran on university- and government-owned mainframes, accessed by terminals. They were very expensive, but in that year, the first personal computer—the Altair 8800—was produced, which would change that forever. Just as the arrival of inexpensive computers from Commodore, Apple, and IBM led to a viable commercial game industry, they opened the door for a profitable educational software industry (see Figure 2.2).

At first, the emphasis in these products was far more on education than entertainment. They were little more than electronic versions of coursework with furry critters as teachers. In most cases, they were meant to supplement, not supplant, classroom curricula. But soon a new type of software appeared on the scene. It was called *edutainment software*.

Edutainment

Edutainment is a marriage of education and gameplay that can be experienced without supervision.



Figure 2.2
Math Blaster.

This marriage has always been a rocky one. Relationships need *balance* to sustain them. We'll come back to that word, *balance*, again and again in the following pages. One of the hardest jobs a game designer has is to balance the many elements of a game. But I'm getting ahead of myself.

EDUCATION VERSUS ENTERTAINMENT

The problem was that EDU came before TAINMENT. Education was emphasized so much that little more than lip service was paid to entertainment. This imbalance survives to this day. The dilemma is a tricky one. If the software fails to entertain, it can be even more boring than the worst lecturer. If the software concentrates too much on fun, it risks obscuring the learning objectives (see Figure 2.3). I will address this issue on later levels, but the secret to the balance here is pragmatic educators and game designers being willing to compromise, so that both have an opportunity to reach their goals.

The next wave of video games used for education was to drop the EDU entirely from Edutainment and bring the instructor back into the equation. These are commercial video games that may contain educational elements by their very nature but were not designed to be educational. One of my favorites, and one of the best computer games of all time, was Sid Meier's *Civilization* (see Figure 2.4).

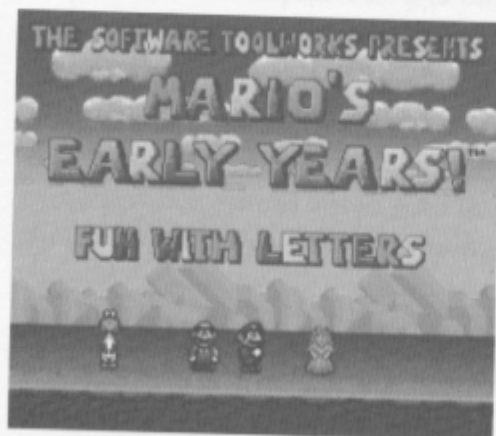


Figure 2.3
Introducing favorite characters doesn't help very much.

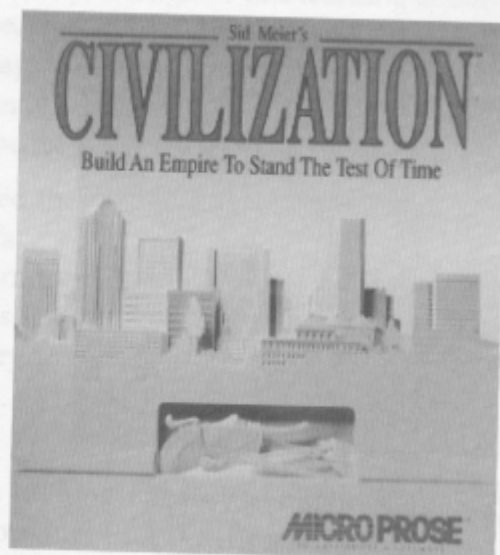


Figure 2.4
A commercial game that teaches.

My son Graham will tell you he learned some important history lessons from that game, including that dictatorships are a great system of government. You have nobody to answer to. You can do what you like. Until your people get so unhappy they revolt. Game over. Sorry, Graham.

Graham also learned strategy, tactics, diplomacy, arbitration, and leadership by running guilds in massively multiplayer games like *Everquest*, *Dark Age of Camelot*, and *World of Warcraft* starting at about age 10. In one early game, he told other players, many of whom were adults, that he was a cryogenics engineer from Seattle. In *Dark Age of Camelot*, he would be called upon to settle disputes between guilds run by people a lot older who prized his skills at arbitration.

And this brief anecdotal family history is supported by research. Constance Steinkuehler has done intriguing work on learning in massively multiplayer online games. James Paul Gee is another researcher in learning through video games. I commend the work of both and of their colleagues.

QUEST TO LEARN

Quest to Learn is an innovative school, currently teaching sixth and seventh graders but planning to eventually serve all middle and high school grades (see Figure 2.5). The year I entered academia, 2006, the initial design and development of Quest to Learn was being funded by a grant from the John D. and Catherine T. MacArthur Foundation. Collaborating with the Education Department of New York City, Quest to Learn focuses on digital literacy. The school first opened its doors in the fall of 2009, the same year I taught my first class as a game.

As their website explains, the school “immerses students in differentiated, challenge-based contexts, the school acknowledges design, collaboration, and systems thinking as key literacies of the 21st century.” The school stresses that its approach is rigorous, not frivolous, and that students do not spend class time hunkered down in front of computer screens. Instead, classes are built around big ideas like “The Way Things Work.” Then students are empowered to role-play within the class. For example, instead of teaching math, the school enables students to take on the role of mathematicians.

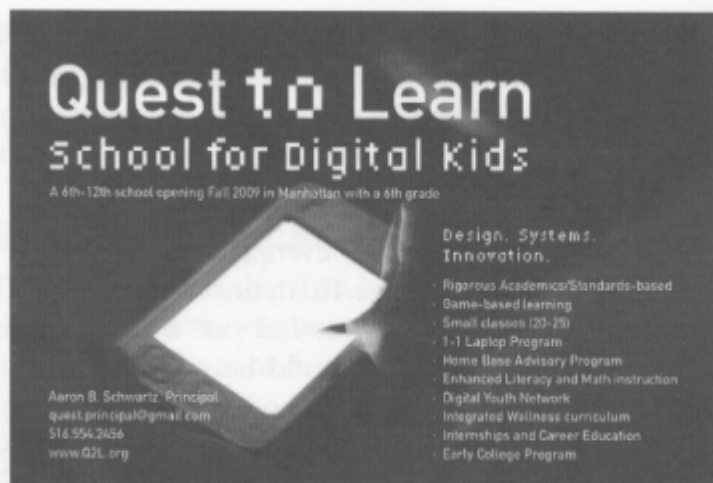


Figure 2.5

Quest to Learn.

I encourage you to look into Quest to Learn. These few paragraphs do not do the idea justice. It is a fascinating holistic approach to learning. You may well find ideas you can use. And on Level 16, I will share an idea at the Rochester Institute of Technology that is taking the multiplayer classroom to the next logical level beyond. Stay tuned.

This has been a brief history of how video games and video game design concepts have been used in education. But as you know, this book is not about using video games in the classroom. In fact, it's barely about using technology in the classroom. And it is also directed at teachers who do not have access to funds from large foundation grants. If nothing else, the multiplayer classroom will appeal to every miserly school system in the land. It uses the language and principles of video games to engage students with little to no out-of-pocket costs at all.